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Status and challenges of the IRE LEU conversion program

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ABSTRACT

As a worldwide major radioisotope producer concerned by the reduction of proliferation risks, IRE is actively pursuing the conversion of its production processes to the use of LEU targets. Several important achievements in different aspects of the project are discussed.

The Mo-99 process ramp-up is progressing well with LEU targets being irradiated in the same conditions than the future commercial productions. However the results obtained on highly irradiated targets are significantly different from what has been observed previously during the cold commissioning and the first active tests. I-131 has been found in various streams where it is usually excluded and thus represents a safety issue at the industrial production scale that must be overcome in priority. Therefore an important process improvement effort is ongoing in order to address this safety issue and meet the stringent regulatory requirements.

In parallel several tests have been performed on the Xe-133 production process. The new equipment that features improved safety characteristics has been successfully tested during LEU active tests.